EVANGELOS E. MILIOS
CURRICULUM VITAE
2021/10/15 at 09:30

A. BIOGRAPHICAL INFORMATION

1. Contact Information

University Address	Faculty of Computer Science, Dalhousie University, Halifax, Nova Scotia, B3J 2X4
University Phone:	(902) 494 7111, Fax: (902) 492 1517
Electronic Mail:	eem@cs.dal.ca, WWW page: `http://www.cs.dal.ca/~eem`

2. Degrees

Ph.D.	*Massachusetts Institute of Technology,* Electrical Engineering and Computer Science. *Thesis:* Signal Processing and Interpretation using Multilevel Signal Abstractions. *Advisor:* Professor Alan V. Oppenheim. *Date:* June 1986
S.M. & E.E.	*Massachusetts Institute of Technology*, Electrical Engineering and Computer Science. *Thesis:* Speech synthesis using the Phase of the Long-time Fourier Transform of the LPC Residual Signal. *Advisor:* Professor Alan V. Oppenheim. *Date:* May 1983 *GPA:* 5.0/5.0
Dipl. Eng.	*National Technical University , Athens, Greece*, Electrical Engineering. *Thesis:* Fast Algorithms for Linear Prediction and System Identification. *Advisor:* Dr. G. Carayannis and Professor E. Protonotarios. *Date:* June 1980 *GPA:* 9.3/10.0

3. Employment

7/17-6/22	University Research Professor, Faculty of Computer Science, Dalhousie University.
9/12 - 6/17	Associate Dean - Research, Faculty of Computer Science, Dalhousie University.
1/08 - 9/11	Associate Dean - Research, Faculty of Computer Science, Dalhousie University.
7/00 - present	Professor, Faculty of Computer Science, Dalhousie University.
4/06 - 5/11	Killam Chair in Computer Science, Faculty of Computer Science, Dalhousie University.
7/98 - 6/00	Associate Professor, Faculty of Computer Science, Dalhousie University.
7/91 - 6/98	Associate Professor, (tenured since 4/94), Department of Computer Science, York University.

10/90 - 11/90	Visiting Professor Research Institute for Applied Knowledge Processing (FAW), University of Ulm, Germany.
1/88-6/91	Senior Research Scientist, Department of Computer Science, University of Toronto.
4/86-12/87	Research Associate, Department of Computer Science, University of Toronto.
9/82-4/86	Research Assistant Dept. of El.Eng. Comp. Sci., M.I.T., and Machine Intelligence Technology Group, MIT Lincoln Laboratory.

4. Honors

University Research Professor, Dalhousie University	2017-2022
Killam Chair of Computer Science, Dalhousie University	2006-2011
Senior Member of the IEEE	1998-now

5. Professional Affiliations and Activities

- Member, Board of Directors, CS-Can/Info-Can, https://cscan-infocan.ca/about/ (2019-2021)
- Member of the Association of Professional Engineers Ontario (PEO).
- External expert on the Hellenic Quality Assurance Agency for Higher Education (HQAA), an independent authority with a mandate to organize the evaluation of individual academic units including both Departments and Universities as a whole in Greece.
- ACM Distinguished Speakers' Program Committee, & Nomination Sub-Committee, 2013-2018
- Senior Program Committee Member, ICDAR 2019, International Conference on Document Analysis and Recognition, Sydney, Australia, September 20 – 25, 2019
- Program committee member, DocEng 2019, The 19th ACM Symposium on Document Engineering, September 23, 2019 to September 26, 2019, Berlin, Germany
- Program committee Member, CICLing 2019, 20th International Conference on Computational Linguistics and Intelligent Text Processing, April 7 to 13, 2019, La Rochelle, France
- Program committee member, AAAI 2019, Thirty-Third AAAI Conference on Artificial Intelligence (AAAI-19), January 27 – February 1, 2019, Hilton Hawaiian Village, Honolulu, Hawaii ...
- General Chair of DocEng 2018, the ACM Symposium on Document Engineering, Halifax, Nova Scotia, Canada, August 28-31, 2018.
- Co-organizer of ESIDA 2018, the Workshop on Exploratory Search and Interactive Data Analytics (ESIDA) Tokyo, Japan, March 11, 2018, Hosted by IUI 2017, the 23rd ACM Int. Conf. on Intelligent User Interfaces, March 7-11, 2018

B. ACADEMIC HISTORY

6a. Research Awards

Research Grants (last 4 years)

2020/07-2021/06 $50,000, NSERC Alliance Grant, “”How is Canadians’ mental health affected by COVID-19: visual analytics of social media text”, with Diversio Inc. E. Milios (PI), Sandra Meier (IWK, Dept of Psychiatry), Evangelia Tastsoglou (Sociology and Int. Dev. Studies, Saint Mary’s U.), Eugena Kwon (Sociology, Saint Mary’;s U.)

2020/09-2021/09 $45,000, Mitacs Accelerate, “Deep Language models for Visual analytics of diversity and inclusion”, DIversio Inc.

2020/07-2021/02 $15,000, Mitacs Accelerate, “Active deep learning for coding medical notes with applications to infectious diseases”, Semantic Health Inc., (co-sup. Fernando Paulovich)

2019/09-2020/02 $15,000, Mitacs Accelerate, “Adversarial Examples and Uncertainty”, Vector Institute (co-sup. Sageev Oore)

2020/04-2025/03 $35,000 per year, NSERC Discovery Grant, “Semantic Representations for Interactive Text Mining”, E. Milios (PI).

2020/07-2020/12 $15,000, MITACS Accelerate (with Semantic Health Inc.), “Active deep learning for coding medical notes with applications to infectious diseases”, E. Milios (PI), F. Paulovich (co-PI).

2020/07-2021/06 $50,000, NSEC Alliance Grant (COVID-19, with Diversio Inc.), “How is Canadians’ mental health affected by COVID-19: visual analytics of social media text”, E. Milios (PI).

2019/04-2019/10 $24,984, NSERC Engage Grant with HireGround Software Solutions Inc., “Semantic search using deep networks”, E. Milios (PI).

2017/9-2020/5 $12,500, CALDO/FAPESP Travel fund for collaboration with USP-SC in Brazil, “Improving Global Recall and Diversity in Topic-based Information Retrieval”, E. Milios (PI).

2017/05-2018/11 $ 130,000 per year, NSERC Collaborative Research and Development Grant, with Aeroinfo Systems (Boeing Canada Operations Ltd), “Visual text analytics for total recall information retrieval in large noisy text datasets”, E. Milios (PI), V. Keselj, S. Brooks, K. Hawkey, S. Matwin.

2016/04-2023/03 $171,428 per year, CIHR Foundation Scheme: 2015 2nd Live Pilot “Beyond Structured Administrative Data (BEST DATA)”, N. Roos, Alan Katz (co-PIs) and 14 co-applicants.

2017/3 - 2022/2 $5,979,010, ACOA Atlantic Innovation Fund, “Deep Sense: A Platform for Academic and Industry Collaboration of Applied R&D in Analytics and the Ocean Economy”, E. Milios (PI)

2017/04-2017/10 $24,998, NSERC Engage Grant with Solution Inc., “Trajectory-based localization using WiFi signal strength”, E. Milios (PI)

2016/04-2016/10 $24,998, NSERC Engage Grant with Analytic-OR, “Automation and Evaluation of Business Intelligence”, E. Milios (PI)

2016/04-2016/10 $24,989, NSERC Engage Grant with Proximify Inc., “Extracting semantic descriptions of expertise from researcher publications”, E. Milios (PI)

2015/04-2020/03 $43,000/year, NSERC Discovery Grant, “Exploiting Semantic Analysis of Documents”.

Research Contracts

2012/12-2014/03 $50,000, InnovaCorp Early Stage Commercialization Fund (ESCF), “Operational Intel-

	ligence from System Log Files for IT/Network Infrastructure Management", E. Milios (PI), N. Zincir-Heywood.
2010/09-2020/04	$1,250,000, The Boeing Company, "Analytic Processes for Complex Data", E. Milios (PI), S. Brooks, V. Keselj, S. Matwin, K. Hawkey, N. Zeh, A. Rau-Chaplin
2009/01-2011/06	$ 1,719,151, CANARIE Network Enabled Platforms Program, "Platform for Ocean Knowledge Management", S.R. Abidi (PI), N. Zincir-Heywood, E. Milios, and several Ocean Scientists.
2006/09-2008/08	$ 357,625, Precarn Small Company Program, "NETPAL, Dynamic Network Administration", E. Milios and N. Zincir-Heywood (co-PIs at Dalhousie), Palomino Inc. (Lead Applicant), Telecom Applications Research Alliance.

6b. Patents

1. Jasiobedzki P., Jenkin M., Milios E., Down B., Tsotsos J., Campbell T.: "Imaging and Ranging Apparatus and Aiming Method". Canadian patent # 2,105,501, 1995.

C. SCHOLARLY AND PROFESSIONAL WORK (IN THE LAST 6 YEARS)

7. Publications

7a. Articles in Refereed Journals

1. Julio César Carnevali, Rafael Geraldeli Rossi, Evangelos Milios, Alneu de Andrade Lopes: "A graph-based approach for positive and unlabeled learning", Information Sciences, Volume 580, November 2021, Pages 655-672, https://doi.org/10.1016/j.ins.2021.08.099
2. Sabando, Maria Virginia and Ponzoni, Ignacio and Milios, Evangelos and Soto, Axel J "Using Molecular Embeddings in QSAR Modeling: Does it Make a Difference?", Briefings in Bioinformatics, Oxford Academic, accepted, Sept. 2021
3. Weibo Wang, Aminul Islam, Abidalrahman Moh'd, Axel Soto, E. Milios: "Non-uniform Language in Technical Writing: Detection and Correction", Natural Language Engineering, accepted, Feb. 3, 2020 (published online) DOI: `http://dx.doi.org/10.1017/S1351324920000133` Impact of Venue: Impact factor: 1.13 Google scholar h5-index: 20, h5-median: 32 link
4. Chandramouli Shama Sastri, E. Milios: "Active Neural Learners for Text with Dual Supervision", Neural Computing and Applications, Springer, vol. 32, pp. 13343–13362, 2020 DOI: 10.1007/s00521-019-04681-0 Impact of Venue: Impact factor: 4.664 Google scholar h5-index: 60, h5-median: 87 link
5. Didier A Vega-Oliveros, Pedro Spoljaric Gomes, Evangelos E Milios, Lilian Berton: "A multi-centrality index for graph-based keyword extraction", Information Processing & Management, Vol. 56(6), Nov. 2019
   URL: `https://doi.org/10.1016/j.ipm.2019.102063`
   Impact of Venue: Impact factor: 3.892 (link)
   Google scholar h5-index: 39, h5-median: 58 (link)
6. Ehsan Sherkat, Evangelos E Milios, Rosane Minghim: "A Visual Analytics Approach for Interactive Document Clustering", ACM Transactions on Interactive Intelligent Systems (TiiS), Vol. 10(1), Art. #6 (issue in progress).
   URL: `https://doi.org/10.1145/3241380`
   Impact of Venue: Impact factor: n/a (link
   Google scholar h5-index: 20, h5-median: 34 (link)
7. Victor H. A. Soares, Ricardo J. G. B. Campello, S. Nourashrafeddin, Evangelos Milios, and Murilo C. Naldi: "Combining Semantic and Term Frequency Similarities for Text Clustering", Knowledge and Information Systems (KAIS), 61, 1485–1516(2019)
   URL: `https://doi.org/10.1007/s10115-018-1278-7`.
   Impact of venue: Impact factor: 2.397 (link)
   Google scholar h5-index: 37, h5-median: 58 (link)
8. Jie Mei, Aminul Islam, Abidalrahman Moh'd, Yajing Wu, Evangelos E. Milios: "MiBio: A dataset for OCR post-processing evaluation", Data in Brief, Volume 21, December 2018, pp. 251-255, Elsevier;
   URL: `https://doi.org/10.1016/j.dib.2018.08.099`
   Impact of venue: Google scholar h5-index: 15, h5-median: 18 (link)
9. Jie Mei, Aminul Islam, Abidalrahman Moh'd, Yajing Wu, Evangelos Milios: "Statistical Learning for OCR Error Correction", Information Processing and Management, Volume 54, Issue 6, November 2018, Pages 874-887;
   URL: `https://doi.org/10.1016/j.ipm.2018.06.001`
   Impact of venue: Impact factor: 3.892 (link)
   Google scholar h5-index: 38, h5-median: 49 (link)
10. Seyednaser Nourashrafeddin, Ehsan Sherkat, Rosane Minghim, and Evangelos Milios. "A visual approach for interactive keyterm-based clustering". ACM Transactions on Interactive Intelligent Systems, Volume 8, Issue 1, 6 (ACM, March 2018);

URL: https://doi.org/10.1145/3181669
Impact of venue: Google scholar h5-index: 20, h5-median: 31 (link)

11. Makki, Raheleh; Carvalho, Eder; Soto, Axel; Brooks, Stephen; Ferreira de Oliveira, Maria; Milios, Evangelos; Minghim, Rosane: "ATR-Vis: Visual and Interactive Information Retrieval for Parliamentary Discussions in Twitter", ACM Transactions on Knowledge Discovery from Data, IDEA Special Issue, Volume 12, Issue 1, Article 3, February 2018, pp. 3:1–3:33;
URL: https://doi.org/10.1145/3047010
Impact of venue: Google scholar h5-index: 25, h5-median: 41 (link)
12. Rashadul Hasan Rakib, Aminul Islam, Evangelos Milios: "Improving text relatedness by incorporating phrase relatedness with word relatedness", Computational Intelligence, Wiley. Published onlined: 5 January 2018;
URL: https://doi.org/10.1111/coin.12152
Impact factor: 1.352 (link)

7b. Fully refereed Conference articles.

1. MRH Rakib, N Zeh, E Milios: "Short Text Stream Clustering via Frequent Word Pairs and Reassignment of Outliers to Clusters" Proceedings of the ACM Symposium on Document Engineering 2020, pp. 1-4
2. M Maisonnave, F Delbianco, F Tohmé, AG Maguitman, EE Milios: "Assessing Causality Structures learned from Digital Text Media", Proceedings of the ACM Symposium on Document Engineering 2020, pp. 1-4
3. EM Cabral, EE Milios, R Minghim: "Visual analysis of interactive document clustering streams", Proceedings of the International Conference on Advanced Visual Interfaces, 1-3
4. S Sousa, E Milios, L Berton: "Word sense disambiguation: an evaluation study of semi-supervised approaches with word embeddings", 2020 International Joint Conference on Neural Networks (IJCNN), 1-8
5. Md Rashadul Hasan Rakib, Norbert Zeh, Magdalena Jankowska, E. Milios: "Enhancement of Short Text Clustering by Iterative Classification", Natural Language Processing and Information Systems: 25th International Conference on Applications of Natural Language to Information Systems, NLDB 2020, Saarbrücken, Germany, June 24-26, 2020, Proceedings, Springer, Volume 12089, Pages 105-117
6. Cecilia Baggio, Rocío L. Cecchini, Ana G. Maguitman, Evangelos E. Milios: "Multi-Objective GP Strategies for Topical Search Integrating Wikipedia Concepts", Proceedings of the ACM Symposium on Document Engineering 2019, Article # 5, 10pp. Berlin, Germany, September 23 - 26, 2019.
   URL: `https://doi.org/10.1145/3342558.3345402`
   Impact of venue: Google scholar h5-index: 10, h5-median: 13 (link),
7. Amanda Gonçalves Dias, Evangelos E. Milios, Maria Cristina Ferreira de Oliveira: "TRIVIR: A Visualization System to Support Document Retrieval with High Recall", Proceedings of the ACM Symposium on Document Engineering 2019, Article # 10, 10pp, Berlin, Germany, September 23 - 26, 2019.
   URL: `https://doi.org/10.1145/3342558.3345401`, Impact of venue: Google scholar h5-index: 10, h5-median: 13 (link),
8. Anh Dang, Abidalrahman Moh'd, Aminul Islam, Evangelos Milios: "Early Detection of Rumor Veracity in Social Media", Proceedings of the 52nd Hawaii International Conference on System Sciences, Grand Wailea, Maui, Hawaii, January 8-11, 2019, 10pp.
   URL: `https://scholarspace.manoa.hawaii.edu/handle/10125/59674`, DOI: `https://doi.org/10.24251/HICSS.2019.284`
   Impact of venue: Google scholar h5-index: 42, h5-median: 55 (link)
9. Sherkat E., Velcin J., Milios E.E. (2018): "Fast and Simple Deterministic Seeding of KMeans for Text Document Clustering". In: Bellot P. et al. (eds) Experimental IR Meets Multilinguality, Multimodality, and Interaction. CLEF 2018, CLEF 2018: Conference and Labs of the Evaluation Forum. Lecture Notes in Computer Science, vol 11018. Springer, Cham, Sep. 10-13, 2018 URL: `https://link.springer.com/chapter/10.1007/978-3-319-98932-7_7`
10. Sitong Chen, Abidalrahman Moh'D, Seyednaser Nourashrafeddin and Evangelos Milios: "Active High-Recall Information Retrieval from Domain-Specific Text Corpora based on Query Documents", 18th ACM Symposium on Document Engineering (DocEng 2018), Aug. 28-31, Halifax, Canada, 8pp;
    URL: `https://doi.org/10.1145/3209280.3209532`
    Impact of venue: Google scholar h5-index: 12, h5-median: 17 (link), Acceptance rate: 50%
11. Md Rashadul Hasan Rakib, Magdalena Jankowska, Norbert Zeh and Evangelos Milios: "Improving Short Text Clustering by Similarity Matrix Sparsification", 18th ACM Symposium on Document Engineering (DocEng 2018), Aug. 28-31, Halifax, Canada, 4pp;
    URL: `https://doi.org/10.1145/3209280.3229114`
    Impact of venue: Google scholar h5-index: 12, h5-median: 17 (link), Acceptance rate: 66%
12. Jie Mei, Xiang Jiang, Aminul Islam, Abidalrahman Moh'D and Evangelos Milios: "Integrating Global

Attention for Pairwise Text Comparison", 18th ACM Symposium on Document Engineering (DocEng 2018), Aug. 28-31, Halifax, Canada, 4pp;
URL: https://doi.org/10.1145/3209280.3229119
Impact of venue: Google scholar h5-index: 12, h5-median: 17 (link), Acceptance rate: 66%

13. E Sherkat, S Nourashrafeddin, EE Milios, R Minghim: "Interactive Document Clustering Revisited: A Visual Analytics Approach", 23rd International Conference on Intelligent User Interfaces, Tokyo, Japan, March 7-11. 2018, pp. 281-292; **Best Student Paper Award**
URL: https://doi.org/10.1145/3172944.3172964
Impact of venue: Google scholar h5-index: 27, h5-median: 40 (link), Acceptance rate: 23%
14. A Soto, C Ryan, F Peña Silva, T Das, J Wolkowicz, E Milios, S Brooks: "Data Quality Challenges in Twitter Content Analysis for Informing Policy Making in Health Care", Proceedings of the 51st Hawaii International Conference on System Sciences, Jan. 2-9, 2018, Hilton Waikoloa Village, Hawaii, pp. 760-769;
URL: https://aisel.aisnet.org/hicss-51/da/big_data_and_analytics/3/
Impact of venue: Google scholar h5-index: 42, h5-median: 55 (link)
15. Nidhin Nandhakumar, Ehsan Sherkat, Evangelos E. Milios, Hong Gu, Michael Butler: "Clinically Significant Information Extraction from Radiology Reports", 17th ACM Symposium on Document Engineering (DocEng 2017), Sept. 4-7, Valletta, Malta. pp. 153-162; URL: https://doi.org/10.1145/3103010.3103023, Acceptance rate: 36%
16. Zichu Ai, Jie Mei, Abidalrahaman Mohammed, Meng He, Norbert Zeh and Evangelos Milios: "A High Performance Computational Framework for Phrase Relatedness", 17th ACM Symposium on Document Engineering (DocEng 2017), Sept. 4-7, Valletta, Malta. pp. 145-148;
URL: https://doi.org/10.1145/3103010.3121039 Acceptance rate: 37%
17. Jie Mei, Abidalrahman Moh'D and Evangelos Milios: "Post-Processing OCR Text using Web-Scale Corpora", 17th ACM Symposium on Document Engineering (DocEng 2017), Sept. 4-7, Valletta, Malta. pp. 117-120;
URL: https://doi.org/10.1145/3103010.3121032 Acceptance rate: 37%
18. Ehsan Sherkat and Evangelos Milios: "Vector Embedding of Wikipedia Concepts and Entities", 22nd Int. Conf. on Natural Language & Information Systems (NLDB) 2017, Liege, Belgium, 21-23 June 2017, long paper, pp. 418–428;
URL: https://doi.org/10.1007/978-3-319-59569-6_50
Impact of venue: Google scholar h5-index: 13, h5-median: 19 (link) Acceptance rate: 18%
19. Seyed Armin Sajadi, Evangelos Milios and Vlado Keselj: "Vector Space Representation of Concepts Using Wikipedia Graph Structure", 22nd International Conference on Natural Language & Information Systems (NLDB) 2017, Liege, Belgium, 21-23 June 2017, long paper, pp. 393–405; URL: https://doi.org/10.1007/978-3-319-59569-6_48 Acceptance rate: 18%
20. Dijana Kosmajac, Vlado Keselj, Evangelos Milios, "EulerianGrapher: Text Visualisation at the Level of Character N–grams based on Eulerian Graphs", 2017 ACM Workshop on Exploratory Search and Interactive Data Analytics, ESIDA '17, in Proceedings of the 22nd International Conference on Intelligent User Interfaces, Limassol, Cyprus, March 13, 2017, pp. 59-63; URL: https://doi.org/10.1145/3038462.3038472
21. Anh Dang, Abidalrahman Moh'd, Anatoliy Gruzd, Evangelos Milios, and Rosane Minghim, "An Offline-Online Visual Framework for Clustering Memes in Social Media", in: From Social Data Mining and Analysis to Prediction and Community Detection, Springer International, 2017, pp. 1-29; URL: https://doi.org/10.1007/978-3-319-51367-6_1

7c. Conference, workshop or challenge participation articles accepted based on summary.

1. Mozhgan Saeidi, Samuel Bruno da S. Sousa, Evangelos Milios, Norbert Zeh, and Lilian Berton: "Categorizing Online Harassment on Twitter", SIMAH Competition, ECML-PKDD 2019. Placed

#4/64.

2. Mei, Jie, Islam, Aminul, Milios, Evangelos, DalGTM at SemEval-2016 Task 1: Importance-Aware Compositional Approach to Short Text Similarity, Proceedings of SemEval, Page Range: 765-770, June 16-17, 2016; URL: https://aclweb.org/anthology/S/S16/S16-1118.pdf
3. Anh Dang, Raheleh Makki, Abidalrahman Moh'd, Aminul Islam, and Evangelos Milios, "Real Time Filtering of Tweets Using Wikipedia Concepts and Google Tri-gram Semantic Relatedness", in Text Retrieval Conference (TREC), Nov. 17-20, 2015;
   URL. http://trec.nist.gov/pubs/trec24/papers/DalTREC-MB.pdf
   Impact of venue: Google scholar h5-index: 16, h5-median: 31 (link)
4. Md Rashadul Hasan Rakib, Aminul Islam, Evangelos Milios: "TrWP: Text Relatedness using Word and Phrase Relatedness", Proceedings of the 9th International Workshop on Semantic Evaluation (SemEval 2015), pages 90-95, Denver, Colorado, June 4-5, 2015. Association for Computational Linguistics;
   URL: http://alt.qcri.org/semeval2015/cdrom/pdf/SemEval016.pdf
   Impact of venue: Google scholar h5-index: 45, h5-median: 71 (link)
5. Marek Lipczak, Arash Koushkestani and Evangelos Milios: "Tulip: Lightweight Entity Recognition and Disambiguation Using Wikipedia-Based Topic Centroids", Entity Recognition and Disambiguation Challenge, ERD 2014 Challenge, Workshop of the 37th Annual ACM SIGIR 2014 conference, July 6-11, 2014, Gold Coast, Australia. Winner of the first prize of the Long Track. Challenge co-organized by Google and Microsoft Research. 6 pages; URL: https://doi.org/10.1145/2633211.2634351
6. M. Jankowska, E. Milios, V. Keselj: "Ensembles of Proximity-Based One-Class Classifiers for Author Verification", Notebook for the 11th evaluation lab on uncovering plagiarism, authorship, and social software misuse. PAN will be held as part of the CLEF conference in Sheffield, UK, on September 15-18, 2014. 4 pages.
7. M. Jankowska, V. Keselj, E. Milios:"Proximity based one-class classification with Common N-Gram dissimilarity for authorship verification task", Notebook for the 9th evaluation lab on uncovering plagiarism, authorship, and social software misuse, PAN 2013, part of the Conference and Labs of the Evaluation Forum, CLEF 2013, 23-26 September 2013, Valencia, Spain. 4 pages; URL: http://ceur-ws.org/Vol-1180/CLEF2014wn-Pan-JankowskaEt2014.pdf
8. Y. Marchand, V. Keselj, E. Milios, and M. Shepherd (2012). Quantifying the role of the opinion lexicon in sentiment analysis. Influence12: Symposium and Workshop on Measuring Influence on Social Media, Halifax, Nova Scotia, Canada, Sept. 28-29.

7d. Books

1. D. Barbosa, E. Milios: "Advances in Artificial Intelligence: 28th Canadian Conference on Artificial Intelligence, Canadian AI 2015, Halifax, Nova Scotia, Canada, June 2-5, 2015, Proceedings", Lecture Notes in Artificial Intelligence, Vol. 9091, 2015, Springer International Publishing, pp. 361, ISBN 978-3-319-18355-8
2. Bill Aiello, Andrei Broder, Jeannette Janssen, Evangelos Milios: Banff, Canada, Nov. 30 - Dec. 1, 2006, Lecture Notes in Computer Science, LNCS-4936, Springer Verlag, 2008.

8. Lectures

1. "A visual approach for interactive keyterm-based clustering" (Invited talk)
   Mar 17-20, 2019, ACM Int. Conf. on Intelligent User Interfaces, Los Angeles, California
2. "A visual analytics approach to interactive document clustering"
   Aug. 6, 2018, Universidad Nacional del Sur (UNS), Bahia Blanca, Argentina

Aug. 13, 2018, Universidade Federal De São Paulo (UNIFESP), São José dos Campos, Brazil
Aug. 16, 2018, ICMC, Universidade de Sao Paulo (USP), Sao Carlos, Brazil

3. "Exploiting Semantic Relatedness in Interactive Information Retrieval"
   May 2-3, 2018, University of Bari, Italy
4. "Semantic Relatedness in Interactive Information Retrieval for Total Recall"
   Sep. 12, 2016, University of Vienna
5. "Exploratory Visual Analysis and Interactive Pattern Extraction from Semi-Structured Data" (Invited talk)
   Mar 7-10, 2016, ACM Int. Conf. on Intelligent User Interfaces, Sonoma, California
6. "Semantic Relatedness In Interactive Information Retrieval For Total Recall",
   Aug. 19, 2015, ICMC, Universidade de Sao Paulo, USP São Carlos, Brazil
   Aug. 26, 2015, Instituto de Matemática e Estatística (IME), University of São Paulo, São Paulo, Brazil
   Dec. 18, 2015, School of Electrical and Computer Engineering, National Technical University of Athens, Greece
7. "Exploiting Semantic Analysis of Documents for the Domain User",
   Aug. 7, 2015, Department of Computer Science, University of Chile, Santiago de Chile
   Aug. 5, 2015, Department of Computer Science, Pontificia Universidad Catolica de Chile (PUC), Santiago de Chile
   Aug. 4, 2015, Departamento de Informática, Universidad Técnica Federico Santa Maria, Santiago de Chile
   Dec. 3, 2014, Institute of Informatics, Warsaw University of Technology, Warsaw, Poland
   Nov. 19, 2014, Department of Computer Science and Engineering, Universidad Nacional del Sur, Bahía Blanca, Argentina
   Nov. 7, 2014, Institute of Mathematical Sciences and Computation (ICMC), Universidade de São Paulo, São Carlos, Brazil

D. TEACHING AND THESIS SUPERVISION

9. Teaching

1998-now, Faculty of Computer Science, Dalhousie University

Graduate courses

CSCI 6901.03 Visual Text Analytics

This is a directed reading course aiming to introduce students to the current literature in visual text analytics. Students are exposed to systems and techniques for combining text visualization, text analytics and human-computer interaction to support human sense making of large document collections and document streams. Students present critical reviews of research papers, and they complete a course project aiming for a publishable research result with additional work.

Short course on Visual Text Analytics

Based on our research experience and the Visual Text Analytics directed study, Dr. Alex Soto and I designed jointly a graduate-level short course (20-25 hours) on Visual Text Analytics, which was offered in the Fall of 2014 to the Universidad Nacional del Sur in Argentina, and the Warsaw University of Technology in Poland. Topics covered are: the basics of text mining, introduction to natural language processing, the d3 visualization library, mathematical techniques to support text visualization, and case studies in text visualization and visual text analytics.
Shorter versions of this course have been accepted as tutorials in the 2015 SIAM Data Mining conference

(April 30-May 2, 2015 in Vancouver) and the 2015 International Joint Conference on Artificial Intelligence (July 25-31, 2015 in Buenos Aires), two premier conferences in the field.

HINF 6220.03 Networks and the Web for Health Informatics

The purpose of this course is to introduce two key technologies that play a critical role in the management of health care, computer networks and the World Wide Web, and how they are used to perform key functions in health care, health record management and access to medical knowledge. Specific objectives of the course are to give students an appreciation of some of the details of related computer technology, including web programming, databases, medical image management, and computer security. The course includes 3 hours of lecture and 3 hours of tutorials per week, which complement each other, in that lectures focus on conceptual issues, while tutorials focus on technology details. Students are expected to participate actively in the lectures and tutorials and contribute their own work experience to enrich the course content with case studies.

CSCI 6505.03 Machine Learning

A graduate level course on fundamental techniques of machine learning, with emphasis on applications to Natural Language Processing, and Information Retrieval and Extraction for the World Wide Web and large document corpora.

ECMM 6016.03 Networking for Electronic Commerce

A stream elective for the newly established Master's for Electronic Commerce program, aiming to introduce the basics of computer networks with a focus on electronic commerce. The difficulty with this course was the diversity of the student body (equally split between graduate students in computer science and MBA students), plus the lack of guidelines of what constitutes a reasonable body of graduate level material for the subject. The topics covered in the course were the foundations of computer networks (with focus on the higher layers, TCP/IP protocols and internetworks), computer security, virtual private networks and firewalls, and software agents for electronic commerce. The format of the course was lecturing for the first third, and seminar for the last two thirds of the course, where current literature was reviewed and presented by students and critically discussed in class. The course project was the design and implementation of an agent-based electronic marketplace.

CSCI 6504.03 Advanced Topics in Software Agents

A new graduate seminar course surveying current research literature in software agents. Topics covered included: internet search engines, collaborative information filtering, link-based approaches (automatic citation indexing, inferring web communities from link topology), information integration and wrapper generation, case-based reasoning, theoretical foundations of software agents (agent communication languages, knowledge representation), multiagent negotiation, computational market models, mobile agents. Evaluation consisted of short weekly reports on the readings, presentations, and a course project (a design or implementation project).

Undergraduate Courses

CSCI 4146.03 Process of Data Science

The advent of low-cost storage and processing power coupled with ever increasing amounts of "born digital" data has created the new field of data science. The ability to achieve a specific goal or answer a business question by crunching through very large and complex databases is becoming a competitive advantage for businesses and leads to new discoveries in science and medicine. This course is an overview of the different processes that make up a data science project. While other fields concentrate on finding previously unknown knowledge or searchingfor a specific pattern, data science focuses on answering deep questions and making the conclusions accessible to the rest of the organization. This course requires the implementation of software and experimental design in order to complete the assignments.

CSCI 3151.03 Web Intelligence

The Web and on-line digital libraries constitute the largest repository of interconnected knowledge in text

form mankind ever created. Search engines have made this knowledge accessible to the lay person. Social networks further enhance the exchange of knowledge among individual Web users. Mining the Web and associated digital libraries is the next challenge that promises to change the nature of scientific discovery, and to dramatically impact the way business is conducted. This course introduces the core Artificial Intelligence concepts and algorithms in the context of Web and text mining: machine learning, natural language processing, semantic web, social networks and web usage mining.

CSCI 3171.03 Network Computing

This core course gives students a foundation in computer networks. It presents a top-down view of the layered architectural elements of communication systems, focusing on the Internet and TCP/IP. Topics include client/server systems, packet switching, protocol stacks, queuing theory, application protocols, socket programming, remote service calls, reliable transport, UDP, TCP, and security.

CSCI 4150.03 Introduction to Artificial Intelligence

Introductory Artificial Intelligence course at the 4th year level (more sophisticated mathematically than the course it replaced in the program, CSCI 3150). Emphasis on modern probabilistic techniques, such as the representation of uncertainty, Hidden Markov Models and Bayesian Networks, Constraint Satisfaction, statistical and reinforcement learning, natural language processing, machine perception and robotics.

CSCI 2140.03 Data and Knowledge Fundamentals, part II

A core undergraduate course introducing data and knowledge bases. I taught part II, Knowledge Fundamentals, covering exhaustive search, heuristic search, and automated inference in propositional and predicate (first-order) logic.

CSCI 3136.03 Principles of Programming Languages

A third year course on the comparative study of advanced programming language features. Topics include statement types, data types, variable binding and parameter passing mechanisms. Formal methods for syntactic and semantic description of programming languages are examined, and compiler design is introduced. I redesigned this course to include an introduction to formal languages and automata.

CSCI 4171.03 Computer Communication Networks

A fourth year course introducing computer communication networks. The challenge in this course is to provide sufficient foundational and mathematical content while giving students an appreciation for the state of the art in this rapidly evolving field. The student body is extremely diverse, because a percentage of the class already has work experience (through coop) with the practice of computer networks. Another issue is that the material is not yet standardised, and therefore choosing a suitable textbook is difficult. As instructor, I had to supplement the textbook chosen with additional material (mostly of foundational nature), and reference to web resources.

CSCI 3150.03 Artificial Intelligence

A third year course introducing the field of Artificial Intelligence. The challenge in this course is to offer a balanced view of the field, which includes robotics, computer vision, knowledge representation, and a variety of fairly advanced underlying mathematics (feedback control, signal processing, optimization theory, first order logic, probabilistic networks). The teaching objective is to convey to the students the basic intuitions without getting into mathematics that is beyond their background. The course evaluation consisted of assignments, two term exams and a course project. The last day of class was devoted to project presentations and demonstrations.

1991-1998, Department of Computer Science, York University

4th year courses, cross-listed as graduate

COSC 4422.03 Computer Vision (crosslisted as a graduate course)

A senior/first-year graduate course on Computer Vision. Topics covered include: The physics and geom-

etry of image formation, camera calibration, depth from stereo, depth from focus, depth from motion. Edge detection and region segentation. Mathematical morphology. Object recognition as search, object recognition using the Hough transform, object recognition using eigenspace representations. Assignments are a mix of theoretical problems and programming using a signal/image processing software package.

COSC 4331.03 Introduction to Computer Graphics (crosslisted as a graduate course)

A senior/first-year graduate course on the theory and practice of computer graphics. Assignments include the implementation of elementary 2D and 3D graphics packages, and the use of existing 3D graphics packages, such as PHIGS and OpenGL.

COSC 4401.03 Topics in Artificial Intelligence: Neural Networks (crosslisted as a graduate course)

A senior/first-year graduate course designed to cover two branches of evolutionary computation, learning in neural networks and optimization with genetic algorithms. The course started with a brief review of statistical pattern recognition, which formed the foundation for a more disciplined treatment of neural network learning. The emphasis of the course was on neural network learning algorithms that have gained practical acceptance, especially in the areas of robotics control and computer vision, with less time devoted to those that are of more theoretical significance. Before covering genetic algorithms, a thorough introduction to the topic of random number generation was offered. This proved to be a good idea, as it gave students a practical grasp of basic probability theory. In terms of laboratory experience, the students used a neural network simulator for the Macintosh, to enhance their basic understanding of the concepts, and Xerion, an advanced neural network construction tool for UNIX, which offers a choice of advanced learning regimes for addressing more realistic problems. A genetic algorithm implementation in Turing for numerical optimization problems was also used.

COSC 4422.03. Signals and Systems (crosslisted as a graduate course)

This was a new senior/first-year graduate course. The objective of the course is to complement the computer vision, graphics and robotics courses in our department, by aiming at an understanding of the basic concepts in discrete signals, filtering, and linear system theory. A basic problem in teaching this course is the nonuniform mathematical background of the students, as well as the fact that it is addressed to both undergraduate and graduate students. The course consisted of 3 assignments, 3 tests, and one course project. Graduate students were required to solve additional problems as part of their assignments, and to carry out the project by themselves, whereas the undergraduates worked in groups. The project involved the design of programs operating on real speech or image data, using an existing library of signal and image processing programs, available along with a textbook. This course can be taught in several different ways, depending on the mix of rigorous mathematics, physical intuition, and computer programming. My approach has been to cultivate physical intuition together with some basic mathematical skills, so that students can understand and use existing software packages. Programming assignments are coordinated with theoretical assignments, so that the former enhance the understanding required by the latter. The course has 17 students and no other assistants.

Undergraduate courses (1st - 3rd year and not cross-listed 4th year)

COSC 2021.03 Computer Organization

A second year course introducing computer organization. Topics covered include assembly language for a RISC processor, elementary digital logic (gates, flip-flops and programmable gate arrays), representation of numbers and the arithmetic and logic unit, processor design (memory and control). The challenge of this course is to bridge the gap between high level languages and digital hardware. Assembly language is introduced to a sufficient degree to allow students an understanding of the issues in processor design.

COSC 1020.03. Introduction to Computer Science I

Course director. The course had three sections and a total enrollment of about 250. I coordinated the three sections, and the work of 6 tutors and 4 markers (a total of 7 different individuals). The course has 3 weeks of supervised laboratory sessions, 5 assignments, 2 tests and a final exam.
Innovations introduced to the course:

- Coverage of subprograms (procedures and functions) before control structures (and the use of a textbook following this philosophy). In this way students are introduced very early to the concept of modular design as a tool for managing program complexity.
- Introduction of graphics in the laboratory part of the course (3 weeks). Lab 3 was redesigned to include turtle graphics, allowing students to construct sophisticated graphical patterns with only 3 weeks of Pascal instruction.
- Tutorials run by graduate students. I undertook the task of managing the tutors, providing them with guidelines as to how to run the tutorials, and monitoring their progress throughout the term through regular staff meetings. Following the suggestion of Prof. Pat Rogers, I prepared and offered a two-hour orientation session for tutors as part of the orientation week activities, dealing specifically with teaching computer programming, and demonstrated three different lecturing styles (lecturing, interactive, and small-group work) in that context.

This course was initially taught in Pascal, then in Object-oriented Turing. In the summer of 1998 I completely redesigned the course in Java and taught it for the first time in the Department of Computer Science at York University.

COSC 1030.03. Introduction to Computer Science II

The course covers data abstraction and introductory data structures. The language used is currently Object-oriented Turing.

COSC/SCS 4001.06. Space and Communication Sciences Workshop

Year-long project course equivalent to a Bachelor's thesis. As course director I proposed and implemented (through milestones introduced to spread the work evenly throughout the academic year) the structure of this course, in which the student works on a specific design-oriented project under the supervision of a faculty member. Achievement of each milestone requires the submission of a progress report, and a short presentation by the student to the whole class. Grades are assigned by Prof. Prince (Chair, Physics Department) and myself, in consultation with project supervisors.

COSC 4341.03. Interactive Systems Design

The course covered the basics of Interactive Systems Design, with equal emphasis on cognitive engineering (predictive models of user behaviour and performance), on interaction styles and techniques, and on software for Interactive systems (X windows, Motif, PC Windows, Hypercard). The course projects involved the design and implementation of an interactive system useful in a practical setting.

COSC 2021.03. Computer Organization

An introductory course in modern computer architecture. Course includes an introduction to performance evaluation, machine instructions, addressing modes, computer arithmetic, processor datapaths and clocking, assembly level programming and microprogramming, memory hierarchy, pipelining (summer of 1997).

Robot sensing, planning and control

This course was designed with funding by a York Senate Teaching-Learning grant. It has not been offered yet. The design involved a selection of topics from the broad area of robotics suitable for a "hands-on" senior-level robot building course covering sensing, planning and control. Students are assumed to have programming skills in C and assembly language, and have taken courses in analog electronics and digital systems design. Control boards based on the MC68HC11 microprocessor with serial communication to a UNIX workstation are used. LEGO Dacta parts are used for building robotic mechanisms. The theoretical part of the course covers the physics of sensors and motors, feedback control theory, and mechanism design.

1988 - 1991, Department of Computer Science, University of Toronto

CSC 484. Applied Artificial Intelligence

The course was designed and taught jointly by Dr. R. Greiner and myself four times (spring term of 1988, 1989, 1990 and 1991). Course evaluation consisted of 4 assignments (10%, 15%, 10%, and 15% of the total mark respectively), and two tests (25% of the total mark each). I taught half of this course (Search, Production Systems, Computer Vision, Robotics), and made up half of the assignment and test questions.

The course was also offered as an intensive 3-day course for industry, sponsored by the ITRC (Information Technology Research Centre), a Centre of Excellence funded by the Government of Ontario.

10. Short courses and tutorials

- *Exploratory Search and Interactive Data Analytics (ESIDA)* Workshop, with Dorota Glowacka, Axel Soto, Fernando Paulovich, Limassol, Cyprus, March 13, 2017, https://sites.google.com/site/esida2017/, hosted by the 22nd Annual Meeting of the Intelligent User Interfaces Community, IUI 2017, March 13-16, 2017, http://iui.acm.org/2017/
- *Visual Text Analytics*, Tutorial, with Axel Soto, 2015 SIAM Data Mining conference (April 30-May 2, 2015 in Vancouver). `https://www.siam.org/meetings/sdm15/visual.php`
- *Visual Text Analytics*, Tutorial, with Axel Soto, (July 27, afternoon) 2015 International Joint Conference on Artificial Intelligence (July 25-31, 2015 in Buenos Aires). `http://ijcai-15.org/index.php/tutorials-schedule`
- *User-Centered Text Mining*, Tutorial, with Axel Soto, (June 2, 2015) 2015 Canadian Conference on Artificial Intelligence (AI 2015) (June 2-5, 2015).
- *Mobile Robot Navigation*, Tutorial, Vision Interface, Calgary, June 3, 1991, 8:30 - 12:00.
- *Introduction to Applied Artificial Intelligence*, a week-long intensive short course for industry and government, including hands-on sessions, sponsored by the Information Technology Research Centre, University of Toronto, July 31 - August 4, 1989 (taught jointly with R. Greiner).

11. Theses Supervised or Read

Post-doctoral researchers

1. Martha Dais Ferreira: "Active learning for medical code assignment", July 2020 - Feb. 2021 (co-supervised with Fernando Paulovich).
2. Magda Jankowska, "Visual text analytics for high-recall information retrieval", (co-supervised with Norbert Zeh and Vlado Keselj), May 2017-May 2018.
   Current position: Research scientist at Dash Hudson, Halifax, Canada.
3. Nourashrafeddin Seyednaser (Hamid), "Interactive text clustering applications", 2015/3-2017/10.
   Current position: Machine Learning Developer at Kinaxis, Ottawa, Canada.
4. Marek Lipczak, "Entity Recognition and Disambiguation", 2014/4 - 2014/8
   Current position: Software Engineer at Google, Waterloo, Canada
5. Abidalrahman Moh'd, "High-performance computing in Visual Text Analytics", 2013-2018.
   Current position: Instructor, Eastern Illinois University.
6. Axel Soto, "Visual Text Analytics and dimensionality reduction", 2010-2016.
   Current position: Researcher at CONICET, Universidad Nacional del Sur, Argentina
7. Aminul Islam, "Visual Text Analytics: text similarity using Google N-grams, 2011-2016, co-supervised with V. Keselj.
   Current position: Assistant Professor, University of Louisiana at Lafayette
8. Pawel Pralat, "Clustering in Networked Information Spaces", 2006-2007, co-supervised with J. Janssen.
   Current position: Lab Director, Fields-CQAM Lab, Computational Methods in Industrial Mathematics, The Fields Institute, and Associate Professor, Ryerson University, Toronto, Canada
9. J.P. Grossman, "Recursive Node Similarity in Networked Information Spaces", 2003, co-supervised with J. Janssen. Currently researcher at D. E. Shaw Research, New York City, USA

Ph.D. Theses supervised

Completed Dalhousie theses since about 2010 are available on DalSpace, through search by student name.

1. Anh Dang, "Making Sense Of Social Media Text And The Spread Of Rumours In Online Social Networks – An Interdisciplinary Approach", Interdisciplinary PhD program, co-supervisor: Michael

Smit, (July 2019)
Current position: Application Architect at Government of Nova Scotia

2. Ehsan Sherkat, "Interactive clustering of dynamic document collections", December 2018. DalSpace
Current position: Research engineer at Salesforce, Halifax, Canada (starting Feb. 1, 2019)
3. Armin Sajadi, "Semantic Analysis using Wikipedia Graph Structure", (co-supervised with Vlado Keselj), February 2018. DalSpace
Current position: Researcher at XE.com, Toronto, Canada
4. Raheleh Makki Niri, "Interactive Text Analytics for User-Generated Content", (co-supervised with Stephen Brooks), April 2017. DalSpace
Current position: Research scientist at the Cognitive Computing Centre, Thomson Reuters, Toronto, Canada
5. Magda Jankowska, "Author Style Analysis in Text Documents Based on Character and Word N-grams", (co-supervised with Vlado Keselj). Killam doctoral fellow, April 2017. DalSpace
Current position: Research Scientist at Dash Hudson, Halifax, Canada.
6. Seyednaser Nourashrafeddin (Hamid), "Interactive term supervised text document clustering", Nov. 2014, (co-supervised with Dirk Arnold). DalSpace
Current position:
7. Yeming Hu, "Document Clustering with Dual Supervision", October 2012 (co-supervised with James Blustein). DalSpace
Current position: Software Engineer at Google, New York, USA
8. Marek Lipczak, "Hybrid Tag Recommendation In Collaborative Tagging Systems", May 2012. DalSpace
9. Adetokunbo Makanju, "Exploring Event Log Analysis With Minimum Apriori Information", May 2012. DalSpace (co-supervised with Nur Zincir-Heywood). Best Dissertation Award at IFIP/IEEE International Symposium on Integrated Network Management, Ghent, Belgium, 27-31 May 2013.
Current position: Research Engineer at KDDI Research, Tokyo, Japan.
10. Hathai Tanta-ngai, "SHRACK: A Self-Organizing Peer-To-Peer System For Document Sharing And Tracking", May 2010. (co-supervised with Vlado Keselj) DalSpace
Current position: Software Engineer at Apple, San Francisco Bay Area, USA
11. Xiaomeng Wan, "Link-Based Event Detection In Dynamic Communication Networks", (co-supervised with Nauzer Kalyaniwalla), May 2010.
Current position: Senior Data Scientist at Ambyint, Calgary, Canada
12. Jane Mason, "An N-Gram Based Approach To The Automatic Classification Of Web Pages By Genre", December 2009, (co-supervised with Michael Shepherd)
Current position: Lockheed Martin, Halifax, Canada
13. Mahdi Shafiei, "Leveraging Structural Information For Statistical Topic Models Of Text", August 2009. Currently postdoctoral research associate at Dalhousie University (Dept. of Mathematics & Statistics).
Current position: Software Engineer at Google, San Francisco Bay Area, USA
14. Yongzheng Zhang, "A Framework For Summarization Of Multi-Topic Web Sites", August 2007, (co-supervised with Nur Zincir-Heywood),
Current position: Senior Manager, Data Analytics/Data Mining at LinkedIn, Sunnyvale, California, USA currently working for ebay.com in California.
15. Hongyu Liu, "Probabilistic Models for Focused Web Crawling", August 2007, (co-supervised with Jeannette Janssen).
16. Pifu Zhang, "Globally Consistent 3D Simultaneous Localization And Mapping With Multi-Sensor Fusion", August 2007, (co-supervised with Jason Gu).
Current position: Senior analyst, Canadian Institute for Health Information, Ottawa, Canada
17. B. Kapralos, "The Sonel Mapping Acoustical Modeling Method" (Department of Computer Science, York University, co-supervised with M. Jenkin), completed in June 2006.

Current position: Associate Professor, University of Ontario Institute of Technology, Oshawa, Ontario, Canada

18. Yiannis Rekleitis, "Cooperative Localization and Multirobot Exploration", Department of Computer Science, McGill University, December 2002. (co-supervised with Prof. Greg Dudek).
    Current position: Assistant Professor, University of South Carolina, Columbia, USA
19. Feng Lu, "Shape Registration using Optimization for Mobile Robot Navigation", Department of Computer Science, University of Toronto, September 1995.
    Current position: Software Engineer at Microsoft, Seattle, WA, USA
20. Erwin Prassler, "Distributed representations for map acquisition, representation and navigation", Department of Computer Science, and Research Institute for Applied Knowledge Processing, University of Ulm, Germany, March 1996.
    Current position: Co-founder and CEO, runfun GmbH, Augsburg area, Germany, and Professor, University of Applied Sciences (Hochschule), Bonn-Rhein-Sieg.

Ph.D. Theses, in progress

1. Aman Jaiswal, "Deep language models for detecting and explaining unnecessary care based on the text of clinical notes", Sep. 2021-
2. Juan Ramirez-Orta, "Unsupervised document summarization using pre-trained sentence embeddings and graph centrality", Jan. 2020-
3. Maksym Taranukhin, "Deep language models for visual analytics of diversity and inclusion", Sep. 2020-
4. Mozhgan Saeidi, "Context-Enhanced Concept Disambiguation in Wikification", May 2018-
5. Sima Rezaeipourfarsangi, "Semantic similarity based on word and document embeddings for interactive clustering", Jan. 2018-
6. Mariano Maisonnave, "Detecting Ongoing Events using Contextual Word and Sentence Embeddings", visiting PhD student from the Universidad Nacional del Sur, Argentina, ELAP scholar, main supervisor: Ana Maguitman, Dec. 2018-
7. Maria Virginia Sabando, "Using Molecular Embeddings in QSAR Modeling", visiting PhD student from the Universidad Nacional del Sur, Argentina, ELAP scholar, main supervisors: Axel Soto and Ignacio Ponzoni, Dec. 2018-
8. Md. Rashadul Hasan Rakib, "Semantic relatedness of short texts", (co-supervised with Norbert Zeh), Sep. 2014 - May 2015, and May 2018-

External Ph.D. thesis examiner

1. Hui Wang: "Exploring Topological Environments", Department of Electrical Engineering and Computer Science, York University, September 2014.
2. Elizeu Santos-Neto: "Quantifying the Value of Peer-Produced Information in Social Tagging Systems", Department of Electrical and Computer Engineering, The University Of British Columbia (Vancouver), January 2014.
3. Dervla Anne O Keeffe: "The Verb-Alignment Model of Lexical Similarity", Department of Computer Science, University College Dublin, December 8, 2013.
4. Amir Hossein Razavi: "automatic Text Ontological Representation and classification via FUndamental to Specific conceptual Elements (TOR-FUSE)", Ottawa-Carleton Institute for Computer Science, University of Ottawa, April 18, 2012.
5. Fazel Keshtkar: A Computational Approach to Analysis and Generation of Emotion in Text, School of Electrical Engineering and Computer Science, University of Ottawa, May 16, 2011.
6. Malik Agyemang: "Web Content Outlier Mining: Motivation, Framework, and Algorithms", Department of Computer Science, University of Calgary, March 15, 2006.

7. Xiaoyu He: "CAD-Based Off-line planning for an Active-Vision system", Department of Mechanical Engineering, University of Toronto, June 1993.
8. Roy Eagleson: "Visual Motion Analysis for Robotic Tracking Tasks", Faculty of Engineering Science, University of Western Ontario, Jan. 1992.

M.Sc. Theses supervised

Completed Dalhousie theses since about 2010 are available on DalSpace, through search by student name.

1. Jiarong Cui: "EXSTS: Explainable Semantic Textual Similarity", August 2021
2. Jeniffer David: "Comparing the representation learning of Autoencoding Transformer models in ad hoc information retrieval", December 2020
3. Deepak Munjal: "Visual Analytics Of Research Community Expertise In Space And Time", July 2019. Current position: Chief Technical Officer, Kinetic ChAin Inc., Halifax. https://www.thetrainerapp.com/
4. Amanda Gonçalves Dias: "Visual text analytics for high-recall information retrieval", July 2019. ICMC, University of Sao Paulo, (main supervisor: Maria Cristina Ferreira de Oliveira). Current position: Microsoft, Seattle.
5. Chandramouli Shama Sastry: "Attention networks in active learning based information retrieval", Dec. 2018. pdf
   Current position: Ph.D. student, Dalhousie U.
6. Kyle Tilbury: "Word Embeddings for Domain Specific Semantic Relatedness", co-supervised with Meng He, Dec. 2018 DalSpace
   Current position: PhD student at the University of Waterloo, Ontario, Canada
7. Nidhin Nandhakumar, "Clinically Significant Information Extraction from Radiology Reports", started Jan. 2016, completed Jul. 2017. Dalspace)
   Current position: Data Engineer, Mobivity, Halifax, Canada
8. Zichu Ai: "Fast Calculation of n-gram based phrase similarity", started Jan. 2016, completed Dec. 2017 (co-supervised with Norbert Zeh). DalSpace
   Current position: Developer at Dash Hudson, Halifax, Canada
9. Xiaoke Xu: "Constructing Training Data For Large-Scale Research Topic Classification", Master's project, started June 2017, completed November 2017.
   Current position: Software developer analyst at Libro Credit Union, London, Ontario, Canada
10. Sitong Chen: "Call-for-papers Retrieval System Based on Active Learning and Semantic Similarity", started Jan. 2016, completed July 2017. DalSpace
    Current position: Mobile Developer, Dash Hudson, Halifax, Canada.
11. Zhongchao Tan: "User Interface In Expertise Modeling", Master's project, started January 2017, completed April 2017.
    Current position: Quantitative Investment analyst, Neuberger Berman Breton Hill, Toronto, Canada
12. Jie Mei: "An Ensemble Regression Approach For OCR Error Correction", started Sep. 2015, completed April 2017. DalSpace
    Current position: Software development engineer at Microsoft, Seattle area, USA
13. Eder Jose de Carvalho: " Visual analytics of topics in Twitter in connection with political debates", started Jan. 2016, completed February 2017, visiting student from the University of São Paulo, São Carlos, Brazil, ELAP scholar (main supervisor Maria Cristina Ferreira de Oliveira).
    Current position: Information and Communication technology analyst, SEPOG (Secretary of State for Planning, Budget and Management), Porto Velho, Rondônia, Brazil
14. Afiz Momin: "Towards Expertise Modeling Using Hierarchical Classification and Wikipedia Knowledge", started Jan. 2016, completed Dec. 2016. DalSpace
    Current position: Software Engineer at Best Buy Canada, Vancouver, Canada
15. Yajing Wu: "Multi-Feature Learning For OCR Post-Processing Error Correction", Master's project,

started Sept. 2015, completed July 2016.
Current position: Server Framework Software Developer at NexJ Systems, Toronto, Ontario, Canada

16. Mahsa Forati: "Academic Expertise Representation Using Wikipedia", started Sept. 2014, completed April 2016. DalSpace
Current position: Software Engineer at ForeSee, Vancouver, Canada
17. Weibo Wang: "Non-uniform language detection in technical writing", started Sept. 2014, completed April 2016. DalSpace
Current position: Software developer at Dash Hudson, Halifax, Canada
18. Xiangru Wang: "Text document similarities based on Wikipedia Concept Relatedness", started Sep. 2013, completed in Aug. 2015. DalSpace
Current position: Software development engineer at Amazon, Seattle, USA
19. Arash Koushkestani: "Using named entitites in post-click news recommendation", started Jan. 2014, completed in July 2015 (co-supervised with Marek Lipczak) DalSpace
Current position: Software development engineer at Amazon, Vancouver, Canada
20. Md. Rashadul Hasan Rakib: "Text relatedness using word and phrase relatedness", started Sep. 2012, completed in Aug. 2014 (co-supervised with Aminul Islam) DalSpace
Current position: PhD student at Dalhousie University
21. Shali Liu: "Evaluating the effectiveness of visualization design for twitter conversations on academic topics", started Sep. 2011, completed in Dec. 2015. (co-supervised with K. Hawkey) DalSpace
Current position: Mobile and Web Developer at Dash Hudson, Halifax, Canada
22. Tomasz Niewiariowski: "Tag Generalization For Facet-Based Search", Aug. 2013 (co-supervised with M. Lipczak and V. Keselj). DalSpace
Current position: Co-founder and CTO, Dash Hudson, Halifax, Canada
23. Zainab Zolaktaf: "Probabilistic Modeling In Community-Based Question Answering Services", May 2012. DalSpace
Current position: PhD student at the University of British Columbia, Vancouver, Canada
24. Fatemeh Riahi: "Finding Expert Users In Community Question Answering Services Using Topic Models", May 2012. DalSpace
Current position: Software engineer at Infoblox, Santa Clara, California, USA
25. Love Kalra: "Activities Of Daily Living Detection Using Markov Models", December 2011. DalSpace
Current position: Software engineer at MDA, Halifax, Canada
26. Sisira De Silva: "An Ontology to Model Time in Clinical Practice Guidelines", June 2008.
Current position: EHR Informatics Consultant at Newfoundland & Labrador Centre for Health Information, St. John's, Newfoundland, Canada
27. Zheyuan Yu: "High Performance Postal Address Extraction from Web Pages", co-supervised with Vlado Keselj, April 2007.
28. Gang Wei: "Named Entity Recognition And An Application To Document Clustering", October 2004.
Current position: Specialist at CPP Investment Board, Toronto, Canada
29. Gao, Weizheng: "A Hierarchical Document Clustering Algorithm", August 2004.
Current position: Senior Java Developer at hybris software, Montreal, Canada
30. Yingbo Miao: "Document representations for clustering", August 2004, (co-supervised with Vlado Keselj).
Current position: Data science team lead at Eyereturn Marketing, Toronto, Canada
31. Andrew Tuttle: "Evaluation of Machine Learning Algorithms for Spam Detection", May 2004.
32. Xiaomeng Wan: "Link-Based Search For Similar Pages On The Web", May 2004 (co-supervised with Jeannette Janssen).
33. Lingyan Zhang: "Parallel Automatic Term Extraction from Large Web Corpora", May 2004, (co-supervised with A. Rau-Chaplin)

34. Yunfeng Shan: "Automating Recognition Of Regions Of Intrinsically Poor Multiple Alignment Using Machine Learning", Jul. 2003 (co-supervised with Andrew Roger, Christian Blouin, Edward Susko).
35. Biao Chen: "Clustering the Citation Graph", Sep. 2003 (co-supervised with J. Janssen).
    Current position: Founding Partner / President at Jinjiang Mining Fund, China
36. Adam Nickerson: "Connecting Link Structure and Content on the Web for Effective Focused Crawling", Sep. 2003 (co-supervised with J. Janssen).
    Current position: Senior Mobile Consultant, Halifax, Canada
37. Hui Liu: "Acoustic Positioning Using Multiple Microphone Arrays", July 2003.
38. Xiaowei Song: "A Constraint-Based Approach for Signal Acquisition Control in Magnetic Resonance Imaging and Spectroscopy (MRI/MRS)", August 2002 (co-supervised with Malcolm Heywood, Ben Rusak).
    Current position: Clinical Neuroimaging Senior Scientist with the Fraser Health Authority, Adjunct Professor in SFU's School of Computing Science and MRI program lead at the ImageTech lab in Surrey Memorial Hospital.
39. Li Dong: "Automatic term extraction and document similarity in special text corpora", May 2002. Faculty of Computer Science, Dalhousie University.
    Current position: Computer Software Consultant and Contractor, Saskatchewan, Canada
40. Jinghu Liu: "Resource Bounded Online Search for Dense Neighbourhoods on the Web", May 2002. Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen)
41. Yongzheng Zhang: "World Wide Web Site Summarization", May 2002. Faculty of Computer Science, Dalhousie University. Currently pursuing a Ph.D. in the Faculty of Computer Science, Dalhousie University, (co-supervised with Nur Zincir-Heywood).
42. Zhongmin Shi: "Post-supervised Template Induction for Information Extraction from Lists and Tables in Web Sources", May 2002. Faculty of Computer Science, Dalhousie University (co-supervised with Nur Zincir-Heywood)
    Current position: President at Summba Inc., Vancouver, Canada
43. Wanhong Zheng: "Categorization of Electronic Medical News", December 2001 (co-supervised with C. Watters).
    Current position: Psychiatrist at WVU Hospital, Pittsburgh, USA
44. Wangzhong Lu: "Node Similarity in Networked Information Spaces", July 2001. Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen).
    Current position: Senior Director of Digital Strategy, Architecture Transformation, M&A Integration, CommScope, Charlotte, North Carolina, USA
45. Yuan An: "Characterizing and mining the citation graph of the computer science literature", July 2001, Faculty of Computer Science, Dalhousie University (co-supervised with J. Janssen).
    Current position: Associate Professor at Drexel University, Philadelphia, USA
46. Bill Kapralos, "Eyes 'n Ears: A System for Attentive Teleconferencing", June 2001, Department of Computer Science, York University (co-supervised with M. Jenkin).
47. Greg Reid: "Active Binaural Sound Localization", Department of Computer Science, York University, completed in March of 1999.
    Current position: Computer Science teacher, St. Francis Xavier Secondary School, Toronto, Canada
48. Zusheng Rao: "Fast Retrieval Algorithms for Shape Databases", Department of Computer Science, York University, completed in March of 1999.
49. Jyoti Baid: "Deformable Shape Recognition using Dynamic Programming", started on September 15, 1993, completed on June, 13, 1995.
    Current position: Manager, Engineering Program Managers in Apple Ad Platforms, Apple, San Francisco Bay Area, USA
50. Hong Zhao: "Robot Position Estimation using Higher Order Moments of Laser Range Profiles.", started on September 15, 1991, completed on May 11, 1994, Department of Computer Science, York

University.

51. Ziqiang Wu, "Visual tracking of coloured objects", started on September 15, 1990, completed on October 1, 1992, Department of Computer Science, York University.
52. Jeremy Cooperstock, "A Neural Network Operated Vision-Guided Mobile Robot Arm for Docking and Reaching", completed on January 10, 1992. Department of Computer Science, University of Toronto.
    Current position: Professor at McGill University, Montreal, Canada
53. Bradley Brown, "Visual uncertainty and non-metric relationships in robot navigation: a case study in Robot Orienteering", completed 1/1991, Department of Computer Science, University of Toronto.
    Current position: Managing partner, Red Shift Inc. and Instructor, University of Toronto, School of Continuing Studies, Toronto, Canada
54. Tim Horton, "Model-based shape recognition in the presence of occlusion using a contour-based representation for hypothesis generation and spatial occupancy for hypothesis pruning", completed 6/1990, Department of Computer Science, University of Toronto.
    Current position: Conceptual Designer, TSIS Project, and Business Optimization, URL Innovations, Toronto, Canada
55. John Lee, "Matching Range Images of Human Faces", completed 6/1990, Department of Computer Science, University of Toronto.
56. Robert Martin, "Model-based recognition of curved objects from fragmented edge information", completed 6/1990, Department of Computer Science, University of Toronto.
57. Raymond Lee, "Machine Analysis of Impulse Radar Signals for Ice Profiling", completed 1/1988, Department of Electrical Engineering, University of Toronto. (in collaboration with Canpolar Inc., and co-supervised with A. Venetsanopoulos).

M.Sc. Theses in Progress

1. Bhuvaneshwari Basquarane: "Visual text analytics for concept-based interactive clustering", starting May 2021
2. Rakshit Makan: "Interactive clustering for systematic reviews", starting May 2021
3. Felipe Gonzales: "TopicVisExplorer: Supporting multi-corpora comparison throughvisual exploration of topic modeling", starting January 2020, visiting student from the Universidad Tecnica Federico Santa Maria, Chile, ELAP scholar.
4. Muthukumar Rajendran: "Visual text analytics for the evolution of mental health during the COVID-19 pandemic in Canada", starting Sept. 2020

B.Sc. Theses and Undergraduate Research Supervised

1. Jacob Scanlon: "Simulating WiFi signal strength from multiple access points for smartphone localization", Partnership with Solution Inc., Summer 2017, NSERC USRA
2. Ryan Amaral: "Entity linking using the graph structure of Wikipedia", Summer 2017, NSERC USRA
3. Julia Silva Weber: "Interactively detecting and visualizing paths between news articles in the New York Times corpus", (exchange student from Brazil via the Science without Borders program, co-supervised with Axel Soto and Stephen Brooks, summer 2013).
4. Ajitesh Srivastava: "A graph-based topic extraction method enabling simple interactive customization" and "Text clustering using one-mode projection of document-word bipartite graphs", (visiting Globalink student from BITS Pilani, India, summer 2012 and visiting honours thesis student, winter 2013 - co-supervised with Dr. Axel Soto).
5. Filipe de Lima Arcanjo: "Sentiment analysis in Twitter data" (visiting Globalink student from Universidade Federal de Minas Gerais, Brazil, summer 2012).

6. Jessica Perrie: "Using Google n-grams to Expand Word-Emotion Association Lexicon" (NSERC USRA, fall 2012); "Short and special Text similarity using Google n-grams" (NSERC USRA, summer 2013), Unsupervised Document Relatedness Models Google Trigram-Based Versus Vector Space (Honour's thesis, Aug. 2013). (co-supervised with Dr. Aminul Islam).
7. Ryan MacLeod: "A faceted search engine for the New York Times corpus" (USRA,fall 2012 - co-supervised with Dr. Axel Soto). Current position: Junior Web Developer at macProVideo.com, Halifax.
8. Ryan Kiros, "A new semi-supervised dimensionality reduction method using deep belief networks", co-supervised with Axel Soto and Vlado Keselj, summer 2011, funded by an NSERC USRA. Currently MCS student at Univ. of Alberta.
9. Patrick Nicholson, "Extracting C/NC-Values From Massive Text Corpora Via Frequency Filtering", March 2007, co-supervised with Norbert Zeh, currently PhD student at Univ. of Waterloo.
10. Ian Hopkins, "Optimizing C/NC-value automated term recognition", May 2006, co-supervised with Norbert Zeh. currently Founder and software developer of LucidHelix Solutions in Saskatchewan.
11. Michael Kershaw, "Linking Relevant Medical Literature To Gem-Encoded Clinical Practice Guidelines", March 2004, co-supervised with S.R. Abidi, Law degree in Ontario, Associate - Bennett Jones.
12. Singer Wang, "Browsing And Graph Structural Analysis Of The .Gov Collection", Honour's thesis, September 2003, co-supervised with J. Janssen. Currently Senior System and Database Administrator at The Pythian Group, Ottawa.
13. Michael Klaas, "A Lattice-Like Data Structure for Efficient Automatic Term Recognition", Honour's thesis, May 2003. Currently Chief Architect at Worio.com
14. C. Rafuse, "Sensor Modelling for an Aquatic Walking Robot", NSERC USRA, summer 2002
15. A. Nickerson, "Classification via clustering in imbalanced text data sets", NSERC USRA, summer 2000, co-supervised with N. Japkowicz.

E. SERVICE

1998-now, Faculty of Computer Science, Dalhousie University

- *Scientific Director of DeepSense* (July 2018 - now). DeepSense is an innovation environment that brings together industry with data and ocean scientists to develop commercially useful predictive models, analytical prototypes, and applications for use in the ocean economy. It aims to serve as an engine to help accelerate the development of a new industry sector focused on the creation of ocean data products, computational models, and analytical applications. DeepSense is based on a collaborative model/process for supporting ground-breaking applied industry/university projects, drawing on ocean science, data science and analytics, to accelerate the safe and sustainable development of the blue economy in areas including fisheries & aquaculture, seaport & logistics, and security & defense. I was invited to lead the facilitation of interdisciplinary ocean data analytics projects, due to my background in machine learning and signal and image analysis, my experience in academic-industry research as Associate Dean - Research, and my involvement in the early stages of securing funding for DeepSense. Funding for DeepSense includes $5M from the Atlantic Canada Opportunities Agency (ACOA), a federal agency with mandate to create economic growth in Atlantic Canada (Nova Scotia, New Brunswick, Prince Edward Island and Newfoundland) through innovation and diversification of the local economies, and $5M from the Nova Scotia Labour and Advanced Education Department, to train a workforce capable of applying machine learning and data science techniques to problems involving real-world ocean data.

- *Associate Dean - Research* (January 2008 - June 2017). Major tasks include facilitation of grant proposals, networking with industry, managing the internal grant application peer review process, representing Computer Science on the Dalhousie Research Advisory Committee, being ex officio member of the graduate committee, managing the graduate scholarship budget and the graduate application review process, attending the Dean's executive committee, and participating in the Dean and Associate Deans' weekly meetings. Additional tasks include mentoring new faculty members in proposal writing, managing Canada Research Chair applications and renewals, and managing the process of the establishment of the Big Data Analytics Institute before the arrival of its director, Stan Matwin, Canada Research Chair.

- *Graduate Director* (July 2014 - June 2015). In addition to the routine tasks of the position, I am managing the transition to an online submission process of graduate applications, and an online review and decision of graduate applications. This is supported by three online systems, two of which (online submission and decision processing) I designed and supervised their implementation by our webmaster.

- *Graduate Committee Member* (July 2002 - January 2008). I performed reviews of student files for scholarship allocation, I initiated and contributed to policy making, and I kept track of the Faculty of Graduate Studies scholarship allocation spending.

- *Sabbatical leave grants review committee* (2009-2010). As a member of the committee, I reviewed applications for Sabbatical leave grants by university faculty, and I participated in an annual committee meeting.

- *APICS-CS 2009 Program Chair*. I was responsible for organizing the submission and review process and communication with authors through the EasyChair conference management system. Furthermore, I put together the review panel for the Best paper/poster award competition, designed the review forms, and coordinated the process and compilation of the results.

- *Graduate Director* (February 1999 - July 2002). Main contributions, beyond the day to day administration of the graduate program, student advising and orientation sessions for new graduate students, have been the following:

  - With the Graduate Committee, I articulated, developed and got Faculty approval for academic and operational policies of the Graduate program. I compiled, published and maintain on the Web a complete set of rules and regulations of our graduate program. The new policies and Web resources I created have made it possible to cope with the substantial rate of growth of the program, while improving transparency and fairness, and to promote both the research and the professional component of the program.

  - I established, with the Graduate Committee, policies on graduate student funding, in the form of funding packages (scholarship, teaching and research assistantships) to the students who are academically excellent and show promise of significant contribution to the research of the Faculty.
  - I established, with the Graduate Committee, a structure for the PhD program, and especially the comprehensive/qualifying examination process, that is consistent with that of other North American research-intensive computer science departments.

- *Faculty Search Committee.* As a member of the committee, I help screen applicants for faculty positions, assisted with the hosting of the applicants during interviews, and participated in the decision making process of making offers. Meets weekly or more often during interview season.

- *Search & Selection and Tenure & Promotions Regulations Committee Chair.* The committee established regulations for the search & selection and the tenure & promotions process, to ensure quality and fairness in the process in conformance with the DFA collective agreement and the already established standards in older Faculties, such as the Faculty of Science.

- *Dean's Executive Committee, Faculty of Computer Science.* The committee is an advisory body to the Dean. Meets weekly for 1.5 hour.

- *Scholarship Committee, Faculty of Graduate Studies.* The committee reviews new Killam applications and renewals, other miscellaneous scholarship applications in the winter term, and deals with the second-round allocation of FGS scholarship funds in the fall term. It also discusses graduate scholarship policy issues.

- *Council of the Faculty of Graduate Studies.* The Council approves all Faculty decisions having to do with graduate studies at Dalhousie, such as program approvals, program reviews, and policy issues of the Faculty itself (such as membership). Meets monthly for 1.5 hour.

- *Search committee for the Dean of the Faculty of Graduate Studies.* An ad-hoc committee. Met several times for setting the terms of reference of the search, and review applicants. Interviewed long-list applicants over a full day on a Saturday.

- *Electronic Commerce Executive Committee* (Sept. 1998 - May 2000). As a member of the committee (and chair from November 1998 till February of 1999), I participated in formulating policy for the Master's of Electronic Commerce Program, and in student advising. I also authored a web site (in terms of content) including the evolving rules and regulations of the program and to reduce the administrative load of handling inquiries by prospective applicants. The content of the current web site `http://www.ecomm.dal.ca/` evolved out of the web site I created with the rules, and a previous web site that contained an overview and general information about the program.

- *Electronic Commerce course for the Federal Government.* I handled the administration of this course that was offered in Ottawa for the first time in April-June of 1999. My work involved interfacing with the Institute for Government Information Professionals on administrative and academic matters associated with this course offering, interfacing with the instructors, and articulating a structure for this course.

- *Organizer of a conference for computer science in secondary education.* This event was aimed at raising the profile and reputation of the new Faculty of Computer Science among high-school teachers of Computer Science in Nova Scotia. The event attracted about 50 teachers from around the Province and consisted of overviews of various aspects of our program given by faculty members, accompanied by a presentation by a representative of the Department of Education and Culture, and concluded with a panel discussion led by teachers.

1991 - 1998, Department of Computer Science, York University

- *Promotion and Tenure Committee*, Department of Computer Science (1994-1995).
- *Executive and Appointments Committee*: Main task involved recruitment of faculty members (1991-1994).
- *Graduate Executive Committee*: Coauthor of the proposal to establish a Doctoral Programme in Computer Science at York University (with P. Dymond and M. Jenkin). The proposal was successful, and the Ph.D. program started in September 1996. Formulated and documented student funding policy and satisfactory progress policy for the Master's degree program. (1994-1995).
- *Space and Communications Science (SCS) Program Coordinator.* Involved detailed discussions and negotiations with students, the Chairs of the Departments of Physics and Earth and Atmospheric Sciences, and the Dean of the Faculty of Science in an assessment and revision of the SCS program, an elite program at York preparing students for work in the space, computer and telecommunications industry. As coordinator for four years, I advised students and worked on curriculum issues. (1991-1996)
- *Seneca Computer Engineering Technology Program*: I worked (with M. Jenkin) on the advanced standing assessment of Seneca Computer Engineering Technology Program. The task involved discussions with members of the Seneca and the York Science faculty (1992-1993).
- *First-Year language Committee*: I worked on a report regarding the suitability of the programming language "Scheme" for the November 1992 meeting of the committee.
- *Ariel Environment Committee*: Administration of the teaching computing facility (1991-1993).
- *Undergraduate Admissions Committee, Faculty of Science* (1992-1995).
- *Curriculum Commitees, Department of Computer Science, and Faculty of Science* (1992-1995).
- Frequent speaker on Computer Science, Artificial Intelligence, Computer Vision to high school groups.

1988 - 1991, Department of Computer Science, University of Toronto

- *Artificial Intelligence Seminar coordinator* (1988 - 1991).
- *M.Sc. Admissions Committee* (1990-1991).
- *Information Technology Research Centre (ITRC) Industry Liaison*, (1988 - 1990): Served as the initial contact between ITRC industry affiliates and members of the AI group. A major contribution from this position was the establishment and coordination of the research network between the University of Toronto, York University, Ontario Hydro, Atomic Energy of Canada Ltd, and the National Research Council of Canada. This network was awarded a major grant by PRECARN Assoc. Ltd. for research in the area of vision-guided mobile robotics (also in section on Research funding).